
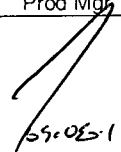
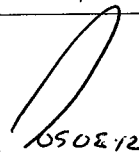


WORK ORDER CHANGES

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
09-08-12	120 <hr/> 160	- UHMW goes to route 120 - Parts list for kit goes to Route 160 - UHMW REMOVED FROM 9 digit. on ALL BEARPAWS perm change		09-08-12		 09-08-12	 09-08-12

Part No: D350-578-011 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR: 48623		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

Work Order ID 48623

Friday, June 26, 2009 8:45:38 AM



Page 1

Item ID: D350-578-011	Accept		Setup	Start	
Revision ID: F3				Stop	
Item Name: Bearpaw					
Start Date: 7/15/2009	Start Qty: 12.00		Cust Item ID:		
Required Date: 8/3/2009	Req'd Qty: 12.00		Customer:		
Reference:					
Approvals:	Process Plan: <u>mf</u>	Date: <u>09-08-12</u>	Tooling:	Date:	
	QC:	Date:	SPC (Y/N):	Date:	
				Run	Start
				Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2432	Rev F3					24			
100	DOCUMENT CONTROL	0.00							
	DC								
Document Control	Memo	0.00							
	Photocopy bluefile and create labels per PPP D350-578-011 CHG005								
120	FLOW WATER JET	0.00							
	Waterjet								
FLOW CNC Waterjet	Memo	0.00							
	Cut Blank as per D2432 File								
130	HAAS CNC VERTICAL MACHINING #1	0.00							
	HAAS 1								
HAAS CNC vertical machine #1	Memo	0.00							
	Note: (2) bearpaws for (1) Kit □ 1-Inspect material for defects or damage prior to machining □ 2-Machine as per Folio and Dwg D2432 □ 3-Deburr								

9-A 09/08/07
88 09/08/07
24 = 12

Work Order ID 48623

Friday, June 26, 2009 8:45:39 AM



Page 2

Item ID: D350-578-011

Accept



Setup Start



Revision ID: F3

Item Name: Bearpaw

Stop



Start Date: 7/15/2009 Start Qty: 12.00



Cust Item ID:

Required Date: 8/3/2009 Req'd Qty: 12.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Y.A 09/08/07

Quality Control

150

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

JL 09/08/10

Quality Control

160

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

9/8/11 SD (128)

Work Order ID 48623

Friday, June 26, 2009 8:45:39 AM



Page 3

Item ID: D350-578-011

Accept



Setup Start



Revision ID: F3

Item Name: Bearpaw

Stop



Start Date: 7/15/2009 Start Qty: 12.00



Cust Item ID:

Required Date: 8/3/2009 Req'd Qty: 12.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

170

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

=> 502/08/10

(12)

180

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D350-578-011 □ Location: _____

A

9/8/11 (12) 84

190

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/08/19 19

MF 09-08-10

Picklist Print

Page 1

Friday, June 26, 2009 8:45:38 AM

Work Order ID: 48623

Parent Item: D350-578-011RevF3

Parent Item Name: Bearpaw

Comments:

Start Date: 7/15/2009

Required Date: 8/3/2009

Start Qty: 12.00

Required Qty: 12.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
S 1/2 MS21042L4 x12 		Purchased	No			170 160	Each	0.0000	144.0000			
Nut AN4-17A x12 		Purchased	No			170 160	Each	0.0000	144.0000			
Bolt AN960JD416 x24 		Purchased	No			170 160	Each	0.0000	288.0000			
Washer D2182BRevC x16 @ 500" 		Manufactured	No	5"	6+*	170 160	f	0.0000	30.0000			
Rubber Cushion D2274RevF x12 		Manufactured	No			170 160	Each	0.0000	144.0000			
Radius Block D2438RevC x6 		Manufactured	No			170 160	Each	0.0000	72.0000			
Clamp D2529RevE x12 		Manufactured	No			170 160	Each	0.0000	144.0000			
Washer MUHMWB10 		Purchased	No			170 120	sf	0.0000	41.0084			
UHMW 1" Black												

1110507 SP

1107321 SP

111277 SP

45405 SP

47796 SP

46113 SP

45358 SP

B 112186 09-08-12

Date: Wednesday, 17/06/2009 10:26:50 AM
 User: Linda Lacelle

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	BEARPAW KIT (19"X24")
Job Number :	48623		
Estimate Number :	12615		
P.O. Number :		Part Number :	D350578011
This Issue :	17/06/2009	S.O. No. :	
Prsht Rev. :	NC	Drawing Number :	D2432 REV F3
First Issue :	/ /	Project Number :	N/A
Previous Run :	47764	Drawing Revision :	F3
	Type :	Material :	
	MACHINED PARTS	Due Date :	24/06/2009
Written By :		Qty:	12
Checked & Approved By :		Um:	Each
Comment :	Est Rev:A New Issue 07-01-02 JLM Est Rev:B 08-01-09 Added Step 2 JLM Verified By:EC Est Rev:C 08-10-15 New Manufacturing Method JLM Verified By:EC		

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description :

1.0

✓ DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels per PPP D350-578-011 CHG005

2.0

✓ MFG ENGINEERING

MFG ENGINEERING



Comment: MFG ENGINEERING

Program Batch Number

3.0

✓ MUHMWB10

UHMW 1" Black



Comment: Qty.: 3.4088 sf(s)/Unit Total : 40.9059 sf(s)

Material: Black UHMW 1"

(MUHMWB10)

Batch: 118 186

HB 9-7-30

4.0

✓ WATER JET

FLOW WATER JET



Comment: FLOW WATER JET

Cut Blank as per D2432 File

Date: Wednesday, 17/06/2009 10:26:50 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BEARPAW KIT (19"X24")

Job Number: 48623

Part Number: D350578011

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0



HAAS1

HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

Note:(2) bearpaws for (1) Kit

1-Inspect material for defects or damage prior to machining

2-Machine as per Folio and Dwg D2432 Identify as D2432F

3-Deburr

6.0



QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

7.0



QC8

SECOND CHECK



Comment: SECOND CHECK

8.0



PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

9.0



D2182B

Rubber Cushion



Comment: Qty.: 2.6250 f(s)/Unit Total : 31.5000 f(s)

Pick: Packing Kit

Qty Part Number Description Batch

6 D2182B050 Rubber Cushion

10.0



D2274

Radius Block



Comment: Qty.: 12.0000 Each(s)/Unit Total : 144.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

12 D2274 Radius Block

2 D2432F(ref only) Bearpaw

Date: Wednesday, 17/06/2009 10:26:50 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BEARPAW KIT (19"X24")

Job Number: 48623

Part Number: D350578011

Job Number:



Seq. #:

Machine Or Operation:

Description :

11.0

✓ D2438

Clamp



Comment: Qty.: 6.0000 Each(s)/Unit Total : 72.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

6 D2438 Clamp _____

12.0

✓ D2529

Washer



Comment: Qty.: 12.0000 Each(s)/Unit Total : 144.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

12 D2529 Washer _____

13.0

✓ AN417A

Bolt



Comment: Qty.: 12.0000 Each(s)/Unit Total : 144.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

12 AN4-17A Bolt _____

14.0

✓ AN960JD416

Washer



Comment: Qty.: 24.0000 Each(s)/Unit Total : 288.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

24 AN960JD416 Washer _____

15.0

✓ MS21042L4

Nut



Comment: Qty.: 12.0000 Each(s)/Unit Total : 144.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

12 MS21042L4 Nut (or -4) _____

Date: Wednesday, 17/06/2009 10:26:50 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BEARPAW KIT (19"X24")

Job Number: 48623

Part Number: D350578011

Job Number:



Seq. #:

Machine Or Operation:

Description :

16.0

✓ QC4

INSPECT 100% KITS FOR COMPLETENESS



✓

Comment: INSPECT 100% KITS FOR COMPLETENESS

17.0

✓ PACKAGING 1

PACKAGING RESOURCE #1



✓

Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-578-011

Location: _____

18.0

✓ QC21

FINAL INSPECTION/W/O RELEASE



✓

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion

✓



✓

DART AEROSPACE LTD		Work Order: 481623
Description: Bearpaw		Part Number: D2432
Inspection Dwg: D2432 Rev: F3		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ **First Article**

 ☐ **Prototype**

Inspection Sheet Drawing Dimension		Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
A	0.063 x 45°	+0.030/-0.010	0.063x45°	✓			
B	5.500	+/-0.030	5.500	✓			
C	0.200	+/-0.030	0.200	✓			
D	0.25 x 45°	+/-0.030	0.250x45°	✓			
E	R0.250	+/-0.030	R0.250	✓			
F	0.250	+/-0.010	0.245	✓			
G	0.625	+/-0.030	0.618	✓			
H	0.375	+/-0.010	0.375	✓			
I	0.950	+0.030/0.010	0.945	✓			
J	19.000	+/-0.030	19.000	✓			
K	3.14	+/-0.030	3.144	✓			
L	3.28	+/-0.030	3.288	✓			
M	Ø0.260	+0.005/-0.000	Ø0.260	✓			
N	Ø0.93	+/-0.030	Ø0.931	✓			
O	0.30	+0.030/-0.000	0.310	✓			
P	23.750	+/-0.030	23.750	✓			
Q	7.375	+/-0.030	7.375	✓			
R	4.250	+/-0.010	4.250	✓			
S	2.000	+/-0.030	2.005	✓			
T	9.000	+/-0.010	9.000	✓			
U	9.000	+/-0.010	9.000	✓			
V	0.375	+/-0.010	0.372	✓			

Measured by: N.A	Audited by: JL	Prototype Approval: N/A
Date: 09/08/07	Date: 09/08/10	Date:

Rev	Date	Change	Revised by	Approved
A	04.01.09	New Issue P/O K10008/D206-559-015	KJ/RF	

F1	99.03.03	ADD DEC 9143
F2	01.03.28	Ø0.75 WAS Ø0.75 RF
F3	02.01.23	CLARIFY CORE DIMS RF

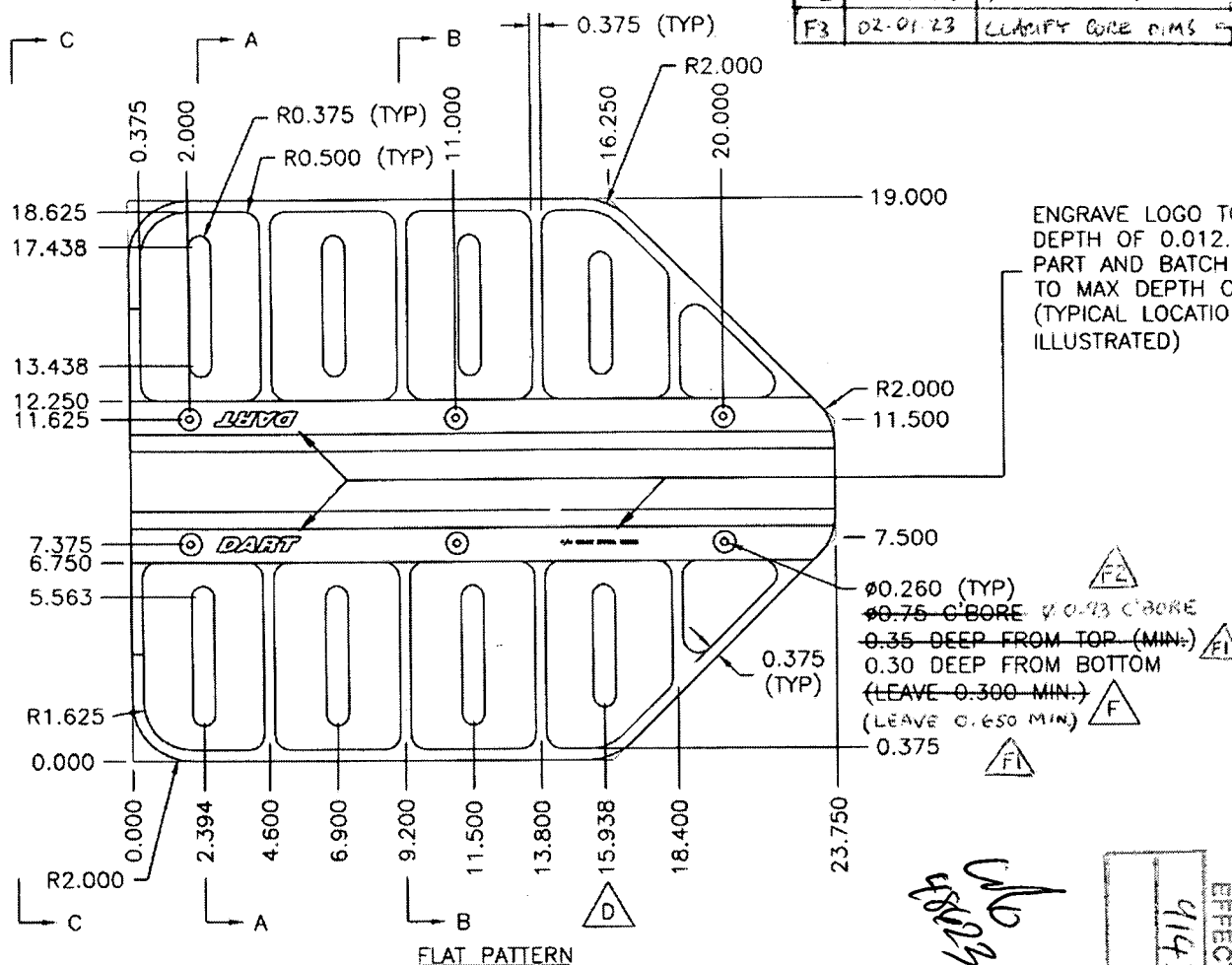
RELEASED
43.06.17 KE

DART



ENGRAVE LOGO TO MAX DEPTH OF 0.012. ENGRAVE PART AND BATCH NUMBERS TO MAX DEPTH OF 0.010. (TYPICAL LOCATION AS ILLUSTRATED)

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	REV. F
CHECKED <i>KE</i>	APPROVED <i>KE</i>	DRAWING NO. D2432	SHEET 1 OF 2
DATE 98.05.12	TITLE BEARPAW	SCALE 1:6	
A	95.10.31	NEW ISSUE	
B	96.01.24	RE-DESIGN	
C	96.03.26	CHANGE BORE AND C'BORE DEPTH	
D	96.06.04	MOVE SLOT	
E	97.02.27	CHANGE C'BORE DEPTH, BORE RADIUS	
F	98.05.12	CHANGE C'BORE, ADD B AND F P/N	



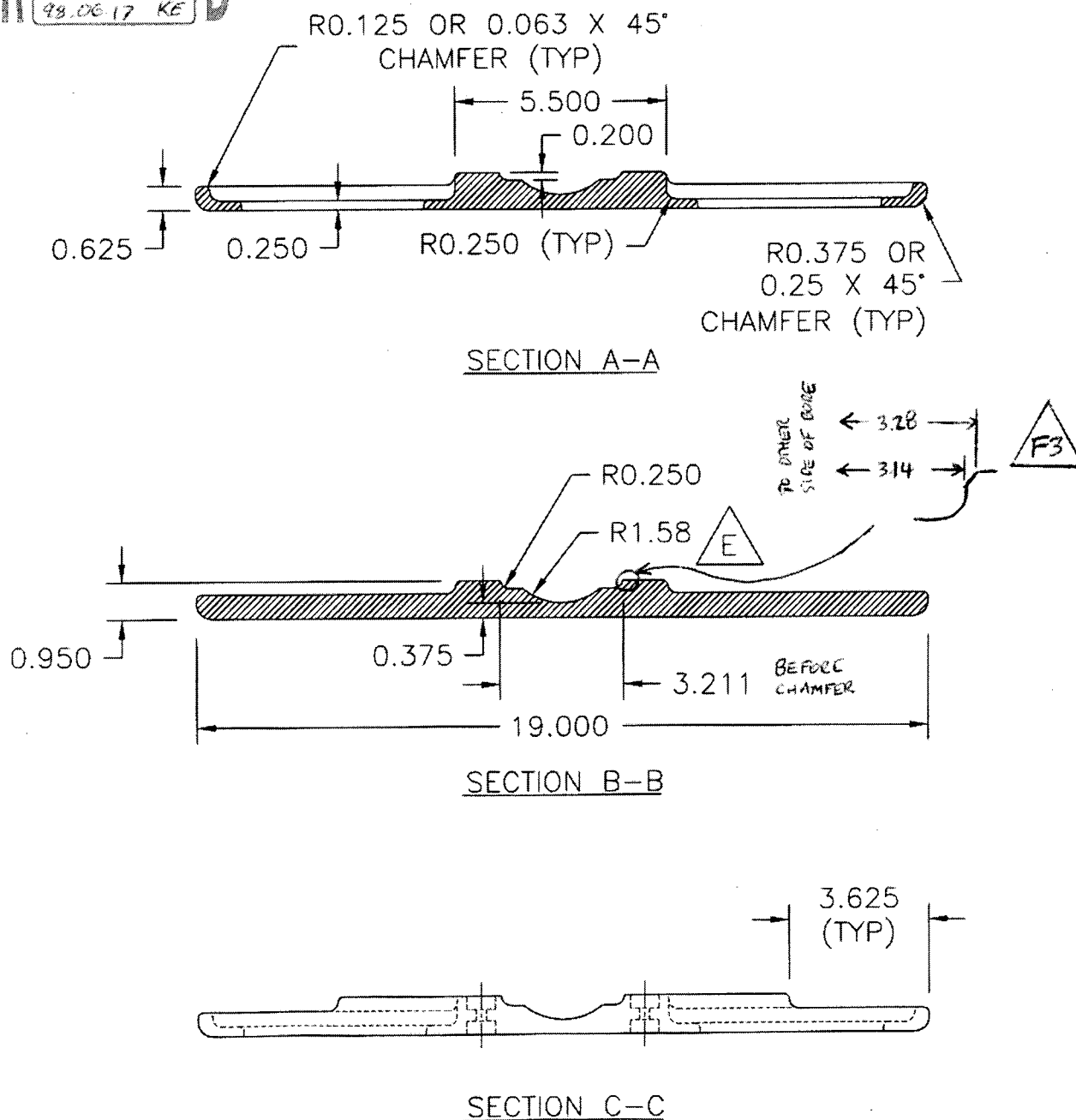
D2432F: FLAT BEARPAW
D2432B: BENT BEARPAW

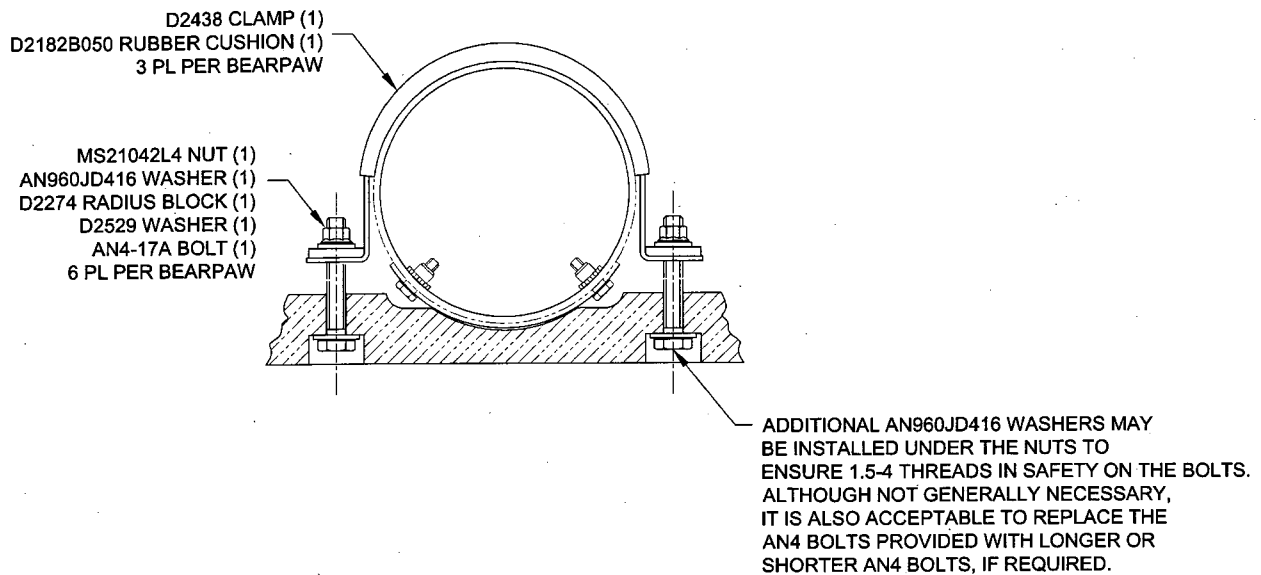
MATERIAL: UHMW BLACK PER SPEC CONTROL DRAWING D2689
1.00 THICK (MACHINE TO 0.950)



DESIGN <i>KE</i>	DRAWN BY <i>KE</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>ME</i>	APPROVED <i>AS</i>	DRAWING NO. D2432	REV. F SHEET 2 OF 2
DATE 98.05.12		TITLE BEARPAW	SCALE 1:4

RELEASED
98-06-17 KE





Section A-A
Figure 4 - Clamping Detail

5.0 PARTS LIST

Qty -011	Qty -021	Part Number	Description
X		D350-578-011	BEARPAW INSTALLATION
	X	D350-578-021	BEARPAW INSTALLATION
6	6	D2182B050	Rubber Cushion
12	12	D2274	Radius Block
12	12	D2529	Washer
6	6	D2438	Clamp
2		D2432F	Bearpaw
	2	D2672F	Bearpaw
12	12	AN4-17A	Bolt
24	24	AN960JD416	Washer
12	12	MS21042L4	Nut (or MS21042-4)